

Algebra 2

Algebra

Students in Algebra 2 will solve and graph many types of equations, systems of equations, and inequalities. They will learn about imaginary and complex numbers.

Examples: Graph $y = \sqrt{x-3} + 4$
 Solve $x^2 + 3x + 4 = 0$

Functions

Students will model real-world relationships with functions by hand and using technology. They will learn to use function notation. They will analyze functions and learn about exponential functions and logarithms.

Examples: If $f(x) = 2x + 3$ and $g(x) = x^2$, find $f(g(x))$
 Solve $\log_2(x+5) = 3$

Geometry and Measurement

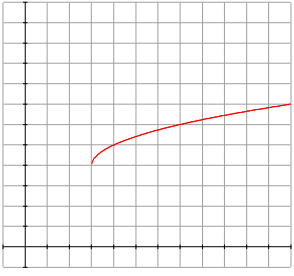
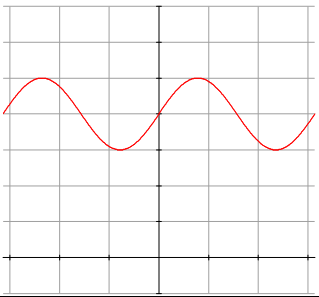
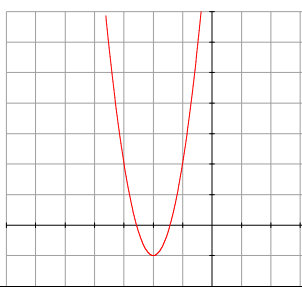
Students will examine the behavior of functions using coordinate geometry. They will learn more about trigonometry and solving problems with trigonometry.

Examples: Graph $y = \sin 2x + 4$ Graph $y = 3(x+2)^2 - 1$

Probability and Statistics

Students will calculate complex probabilities. They will learn to analyze data using measures of center and spread.

Examples: If the probability of being exposed to a disease is .32 and the probability that once exposed, a person will catch the disease is .62, what is the probability that a person chosen at random will NOT catch the disease?
 Calculate the standard deviation for heights in a class using technology.

Algebra	
<p>Graph $y = \sqrt{x-3} + 4$.</p> 	<p>Solve $x^2 + 3x + 4 = 0$</p> $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-3 \pm \sqrt{3^2 - 4(1)(4)}}{2(1)} =$ $\frac{-3 \pm \sqrt{9-16}}{2} = \frac{-3 \pm \sqrt{-7}}{2} =$ $\frac{-3}{2} \pm \frac{\sqrt{7}}{2}i$
Functions	
<p>If $f(x) = 2x + 3$ and $g(x) = x^2$, find $f(g(x))$</p> <p>$2(x^2) + 3$</p>	<p>Solve $\log_2(x+5) = 3$</p> $2^{\log_2(x+5)} = 2^3$ $x+5 = 8$ $x = 3$
Geometry and Measurement	
<p>Graph $y = \sin 2x + 4$</p> 	<p>Graph $y = 3(x+2)^2 - 1$</p> 
Probability and Statistics	
<p>If the probability of being exposed to a disease is .32 and the probability that once exposed, a person will catch the disease is .62, what is the probability that a person chosen at random will NOT catch the disease?</p> <p>P(Exposed but doesn't catch) = $.32 \times .38 = .1216$ P(Never exposed, doesn't catch) = .68 P(Doesn't catch) = $.1216 + .68 = .8016$</p>	<p>Calculate the standard deviation for heights in a class using technology.</p>